

Draft Ten Year Plan 2023-2032

Acronym List

Acronym	Full Name
BUILD	Better Utilizing Investments to Leverage Development (Discretionary Grant program)
CMAQ	Congestion Management and Air Quality Program
COAST	Cooperative Alliance for Seacoast Transportation
DNCR	Department of Natural & Cultural Resources
EV	Electric Vehicles
FAST Act	Fixing Americas Surface Transportation Act
FAA	Federal Aviation Administration
FEET	Frederick E. Everett Turnpike
FHWA	Federal Highways Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GACIT	Governor's Advisory Commission on Intermodal Transportation
GARVEE	Grant Anticipation Revenue Vehicle (Borrows against future federal funds)
HB 1817	House Bill 1817 - Special funding for red listed bridges (One time infusion)
HSIP	Highway Safety Improvement Program
IIJA	Infrastructure Investment & Jobs Act/ (BIL – Bipartisan Infrastructure Law)
LPA	Local Public Agency
LTAP	Local Technology Transfer Program
MOBIL	Municipal Owned Bridge-Bipartisan Infrastructure Law
MOBRR	Municipal Owned Bridge Replacement & Rehabilitation
MTA	Manchester Transit Authority
NTA	Nashua Transit Authority
RAISE	Rebuilding American Infrastructure with Sustainability and Equity (Discretionary grant program)
RPC	Regional Planning Commission
SAB	State Aid Bridge Program
SAH	State Aid Highway Program
SB 367	Senate Bill 367 - 4.2 Cents Road toll tax (Gas Tax)
SRL	State Red List (Bridges)
SPR	Statewide Planning & Research
STBG	Surface Transportation Block Grant
TA/TAP	Transportation Alternatives Program
TIFIA	Transportation Infrastructure Finance and Innovation Act (Federal Loan)
TIFIA DS	TIFIA Debt Service
TIGER	Transportation Investment Generating Economic Recovery (Discretionary Grant Program)
TMA	Transportation Mananagment Area
TRR	Turnpike Rehabilitation & Reconstruction
TYP	Ten Year Plan
UZA	Urbanized Zone Area

Nashua-Manchester 40818 (Capitol Corridor)

Ridership Forecasting Overview

The prior ridership forecast for the project was prepared in 2014 for a number of service alternatives studied at that time as part of the NHDOT Alternatives Analysis for the project. The most promising of the alternatives was identified as **Manchester Regional Commuter Rail**. Subsequently, in 2021 NHDOT commenced further development of the preferred alternative, which involved updating the service plan and developing a new ridership forecast.

During the seven year hiatus in analysis of the alternatives there were changes in federal guidelines on preparation of ridership estimates and changes in corridor demographics. The tables and bullet points below provide a summary comparison of the forecasts and their key differences.

Comparison of New Hampshire Daily Inbound Boardings* from the Prior and New Ridership Forecasts

New Hampshire Stations	Prior Build Forecast (Year 2014)	# of Inbound Trains
South Nashua	590	17
Nashua Crown Street	420	17
Bedford/MHT	280	8
Downtown Manchester	270	8
New Hampshire Total	1,560	

New Hampshire Stations	New Build Forecast (2040)	COVID Low impact	COVID Medium impact	COVID High impact	# of Inbound Trains
South Nashua	934	800	700	500	16
Nashua Crown Street	705	600	500	400	16
Bedford/MHT	764	700	600	400	16
Downtown Manchester	464	400	400	300	16
New Hampshire Total	2,866	2,500	2,200	1,600	

*Note that total ridership (inbound and outbound) would be approximately double the daily inbound boardings

Similarities in the Forecasts

- Both assume service is an extension of the MBTA Lowell Line commuter rail with same type of equipment and similar operating speeds
- Both assume the same four proposed stations in New Hampshire at locations listed above

Key Differences in the Forecasts

- **Demographics:** Prior forecast used 2014 demographics (population and employment) and the new forecast uses updated 2040 demographics from regional planning agencies in the corridor
- **Forecasting Model:** Prior forecast used Federal Transit Administration (FTA) Aggregate Rail Ridership Forecasting Model. The new forecast uses FTA's Simplified Trips-On-Project Software (STOPS) model, which is the now standard FTA model for forecasting ridership
- **Increased Connectivity:** Multimodal connections were not as well defined in the 2014 forecast, and the new forecast provides improved bus transit, ped/bike, shuttle service to the airport, and P&R connectivity

PROTECT - Promoting Resilient Operations for Transformative, and Cost-saving Transportation

Purpose: To help States improve the resiliency of transportation infrastructure

Funding: 80% federal with 20% match

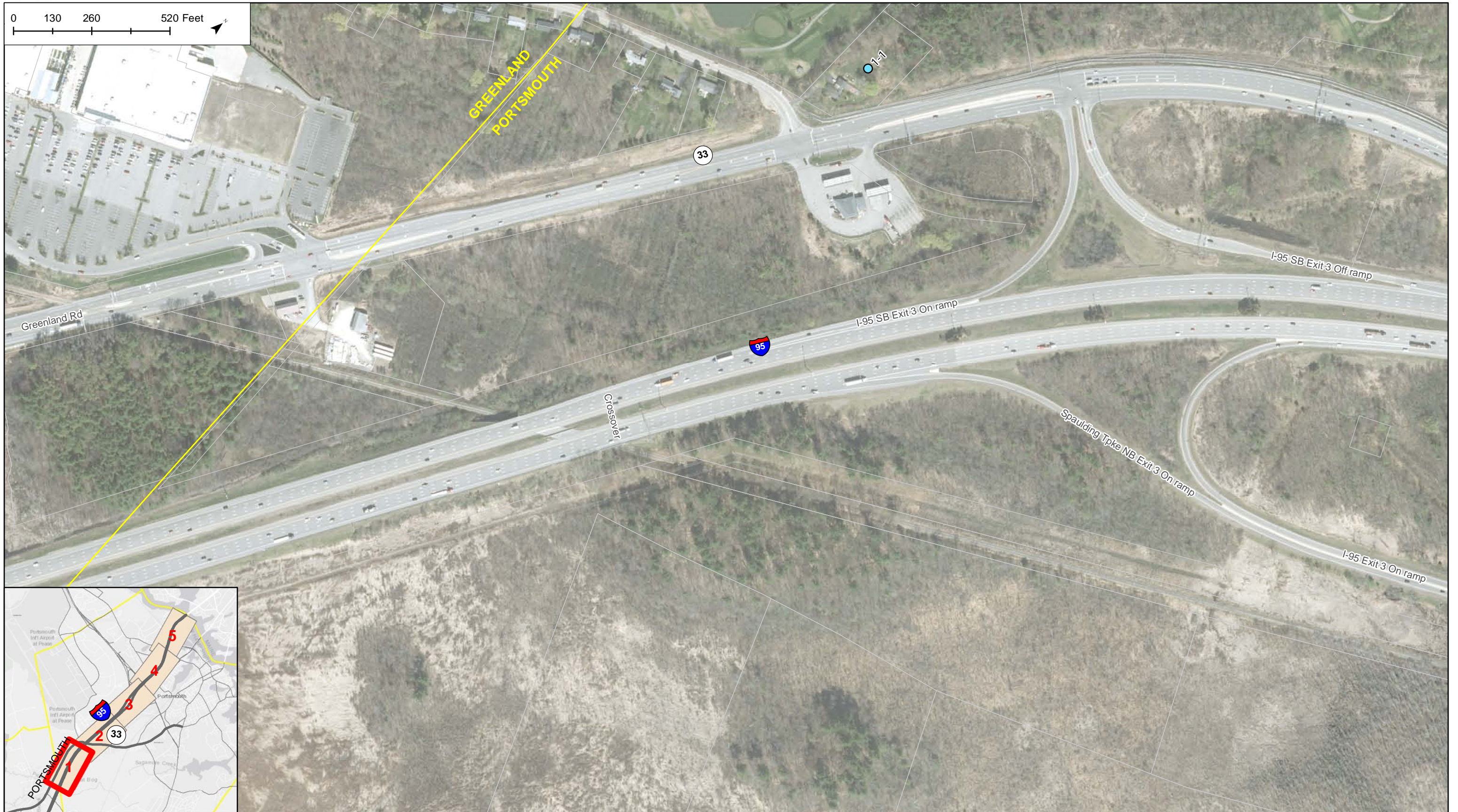
Match can be reduced to 10% with development and implementation of a resiliency improvement plan

Formula funding – NH receives annual apportionment (\$5.8M FFY 2022)

Discretionary Grants (resiliency improvement, community resilience & evacuation route, at risk coastal infrastructure grants).

Plan:

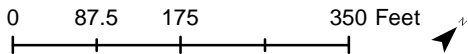
- 1) Increase CRDR program (Culvert Replacement/Rehabilitation & Drainage Repairs) funding by \$2M per year.
 - a. DOT Recently completed an initial statewide culvert inventory in the Statewide Asset Data Exchange System (SADES) called CCDS Phase 1 (Culvert & Closed Drainage Systems). This 3-year effort geolocated over 5000 culverts and documents culvert details including a basic condition assessment. DOT also developed a detailed culvert inspection procedure to take a closer look at poor condition culverts. This culvert inventory is utilized to prioritize the DOT's culvert investments.
- 2) Identify existing projects that are making resiliency investments by developing a coastal flood risk tolerance framework for various highway tiers.
 - a. Utilize CRDR program for smaller size projects (less than \$5M for resiliency components).
 - b. Introduce individual projects through the TYP to address larger scale investment needs
 - c. DOT Project Review Committee to ensure all projects (current & future) consider climate change and address resiliency needs where appropriate
 - i. Rye 43002 - NH1A culvert replacement
 - ii. Gilmanton 43536 – NH107 culvert improvements
 - iii. Shelburne 42599 - US2 culvert replacements
 - iv. Greenland 43849 NH33/Winnicut River Engineering assessment - resiliency
 - d. Apply for discretionary grants for larger projects, ie.
 - i. Hampton 40797 - Ocean Boulevard
 - ii. North Hampton – Rye 42312 – seawall reconstruction
 - iii. Hampton 41584 – NH101-US1 interchange reconfiguration



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|-------------------------|-------------------------|------------|------------------------|
| Category B (Below NAC) | Category C (Exceed NAC) | Category F | Monitoring Locations |
| Category B (Exceed NAC) | Category D (Below NAC) | Category G | Existing Noise Barrier |
| Category C (Below NAC) | Category E (Below NAC) | | |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 2
Existing Exterior
Sound Levels



Area 2 - Sherburne Rd/
Greenland Rd
Length: 1,700
Height: 25
Area: 42,330 s.f.
Impacts: 12
Benefits: 13
Insertion Loss: 9-13 dB(A)
Effectiveness: 3,256
Criterion: 1,700
Cost (\$55/sf): \$2.3M

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|---|---|---|
| ● Impact & Benefit | ● Not Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 7
Build - Study Area 2
Sherburne Road (I-95 NB)

0 87.5 175 350 Feet



Area 3 - Pannaway Manor
 Length: 2,500 ft
 Height: 21 ft
 Area: 52,260 s.f.
 Impacts: 33
 Benefits: 70
 Insertion Loss: 8-14 dB(A)
 Effectiveness: 747
 Criterion: 1,700
 Cost (\$55/sf): \$2.9M
 Utility Relocation: \$1M
 Total Cost: \$3.9M

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|---|---|---|
| ● Impact & Benefit | ● Not Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 8
 Build - Study Area 3
 Pannaway Manor (I-95 SB)



Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 9
 Build - Study Area 4
 Coakley Road (I-95 NB)

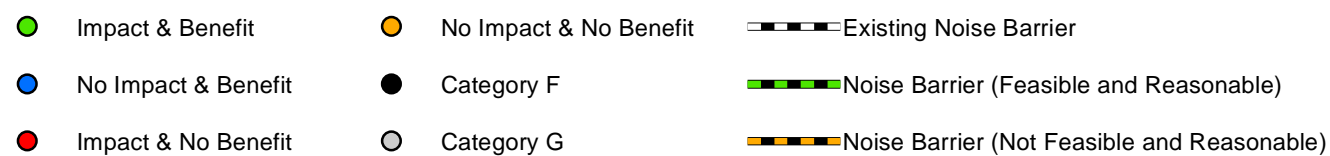
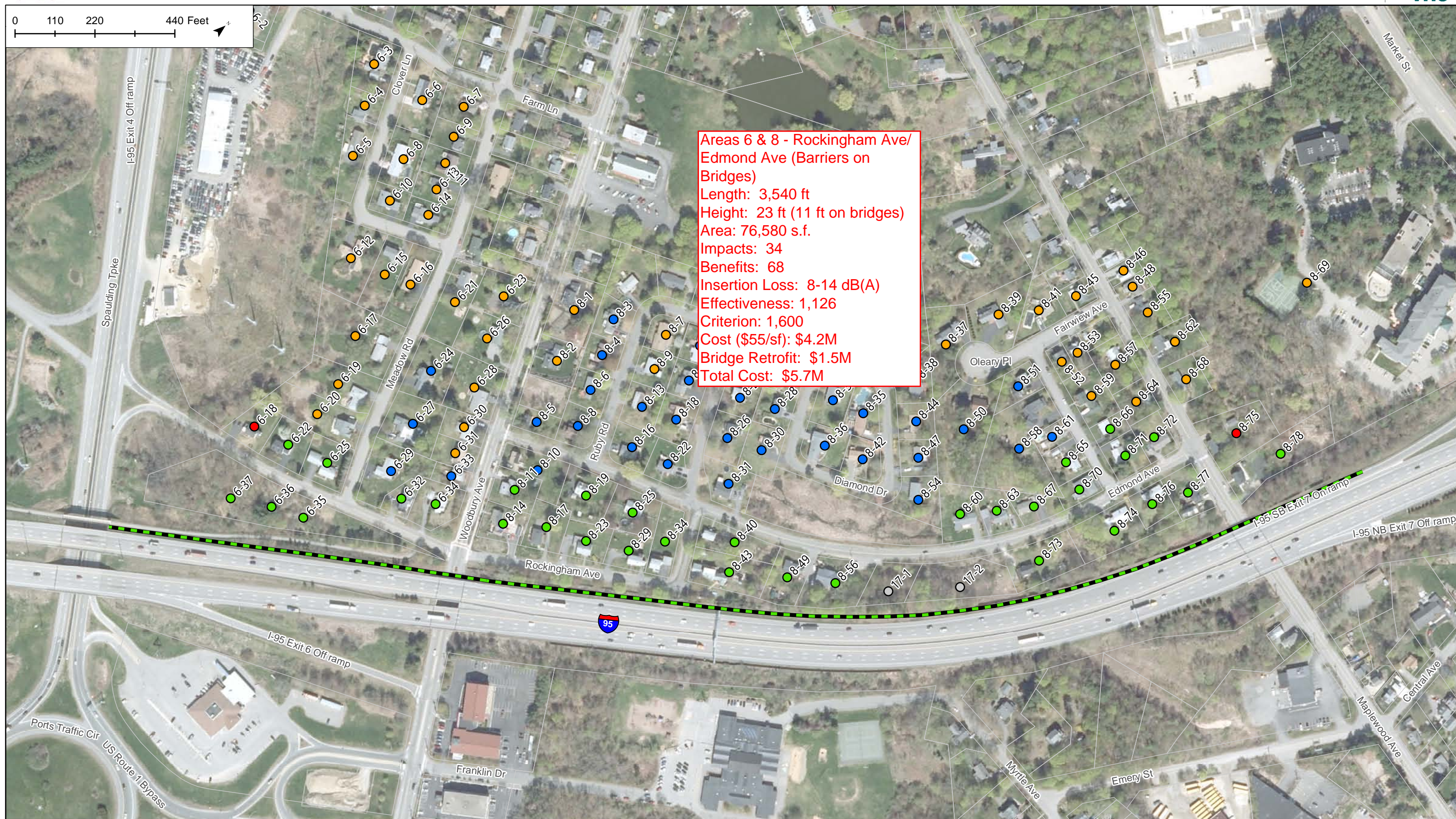


Areas 6 & 8 - Rockingham Ave/Edmond Ave (No Bridge Barriers)
Length: 3,140 ft
Height: 23 ft
Area: 72,180 s.f.
Impacts: 34
Benefits: 49
Insertion Loss: 7-14 dB(A)
Effectiveness: 1,473
Criterion: 1,600
Cost (\$55/sf): \$4M

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| ● Impact & Benefit | ● No Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

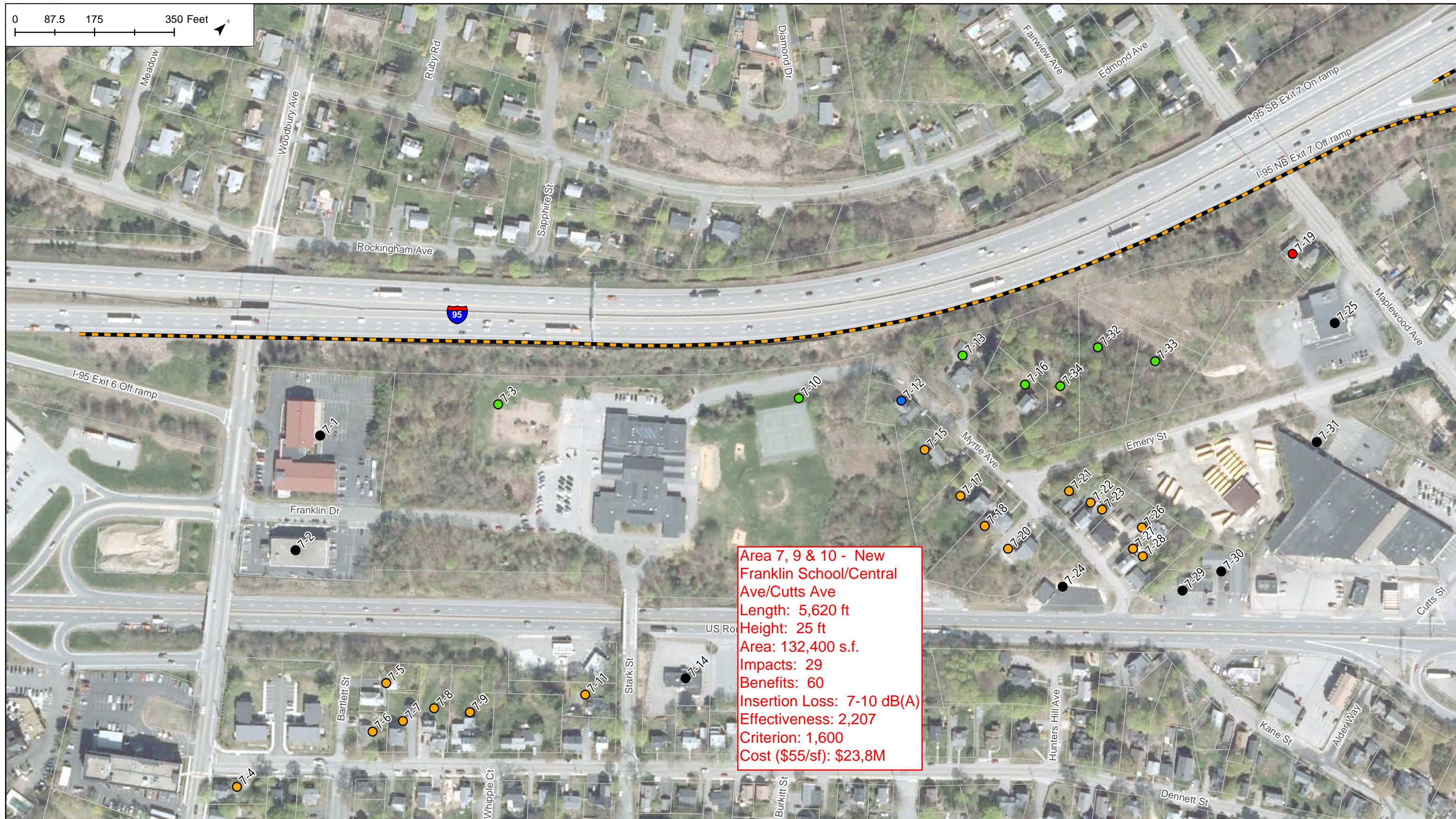
Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 10
Build - Study Areas 6 & 8
Maplewood Avenue to US-4 (I-95 SB)



**Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire**

Figure 11
Build - Study Areas 6 & 8
Maplewood Avenue to US-4 (I-95 SB)



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|---|--|---|
| ● Impact & Benefit | ● No Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 12
Build - Study Area 7
Woodbury to Maplewood Avenue (I-95 NB)



**Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire**

**Figure 13
Build - Study Area 9
South of Market Street (I-95 NB)**

0 87.5 175 350 Feet



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|---|--|---|
| ● Impact & Benefit | ● No Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 14
Build - Study Area 10
North of Market Street (I-95 NB)

0 87.5 175 350 Feet

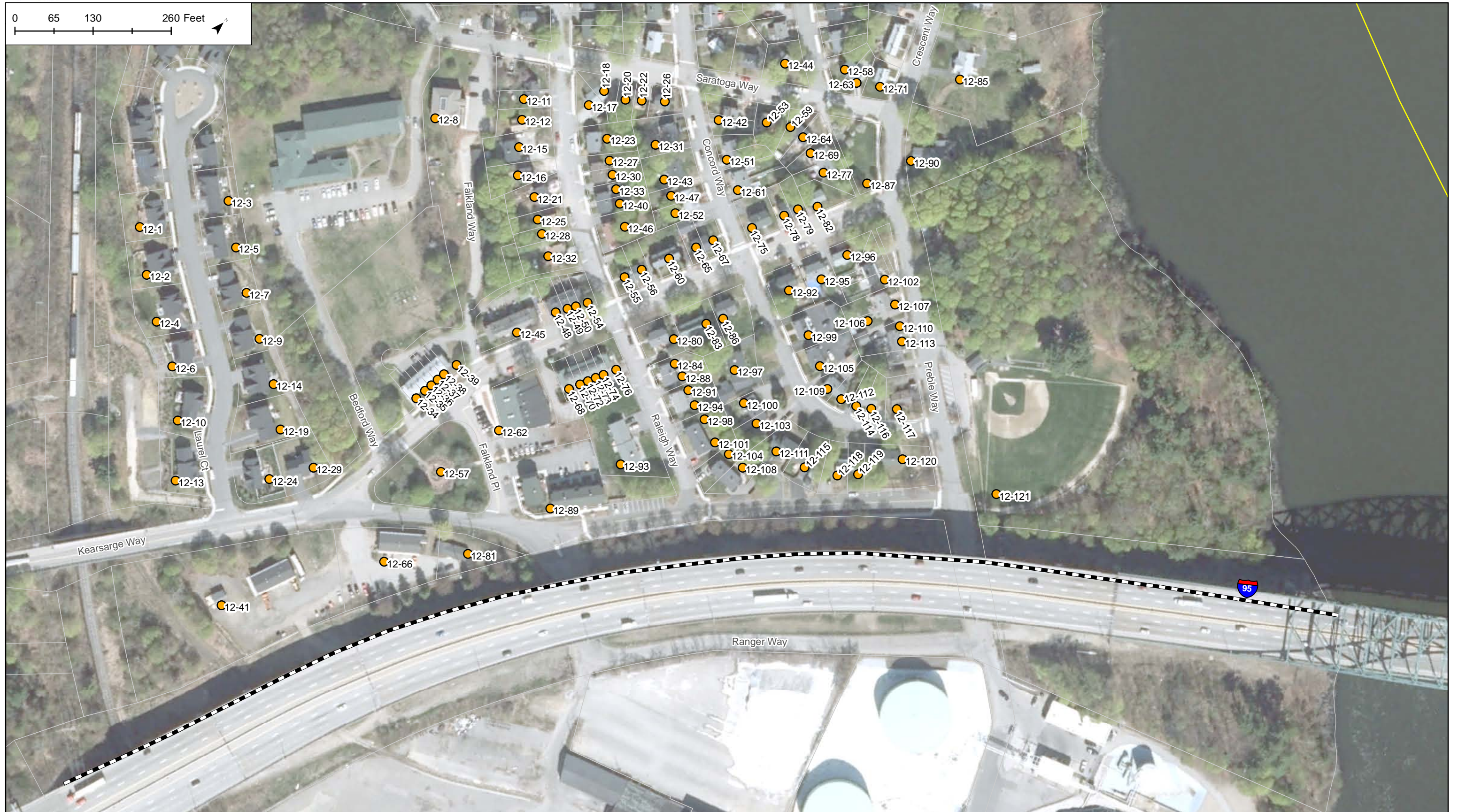
Area 11 - Kearsarge Way
Length: 1,300 ft
Height: 25 ft
Area: 32,500 s.f.
Impacts: 2
Benefits: 0
Insertion Loss: 4 dB(A)
Effectiveness: N/A
Criterion: 1,700
Cost (\$55/sf): \$1.8M

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| ● Impact & Benefit | ● No Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 15
Build - Study Area 11 Exit 7 Off-
Ramp (I-95 SB)

0 65 130 260 Feet



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| ● Impact & Benefit | ● No Impact & No Benefit | Existing Noise Barrier |
| ● No Impact & Benefit | ● Category F | Noise Barrier (Feasible and Reasonable) |
| ● Impact & No Benefit | ● Category G | Noise Barrier (Not Feasible and Reasonable) |

Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

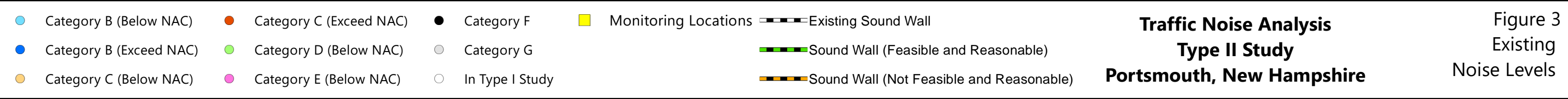
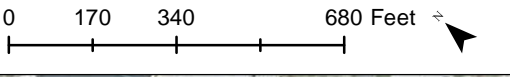
Figure 16
Build - Study Area 12
North of Market Street (I-95 SB)

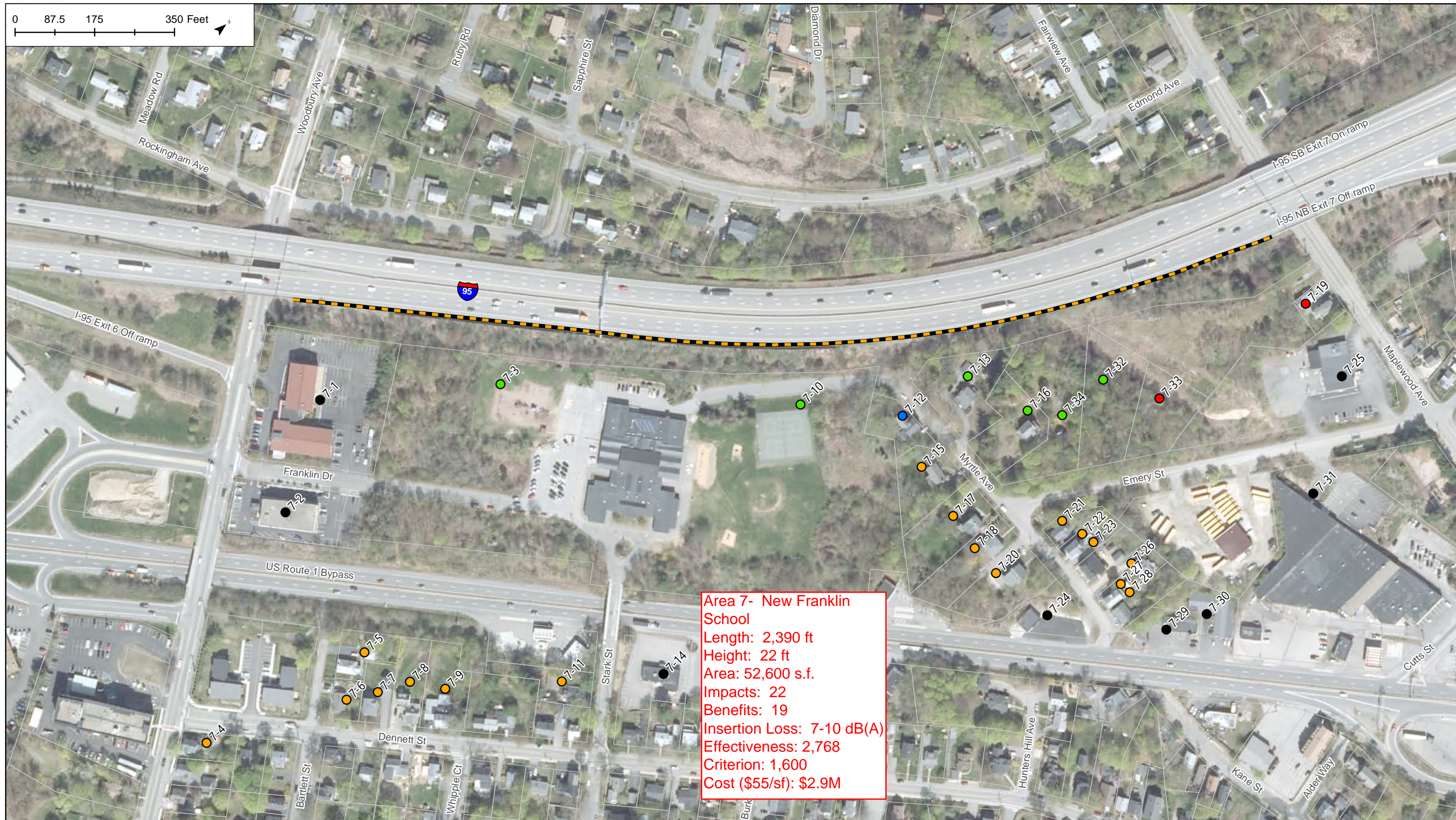


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|---|--|--|--|---|
| ● Category B (Below NAC) | ● Category C (Exceed NAC) | ● Category F | ■ Monitoring Locations | Existing Sound Wall |
| ● Category B (Exceed NAC) | ● Category D (Below NAC) | ● Category G | | Sound Wall (Feasible and Reasonable) |
| ● Category C (Below NAC) | ● Category E (Below NAC) | ○ In Type I Study | | Sound Wall (Not Feasible and Reasonable) |

**Traffic Noise Analysis
Type II Study
Portsmouth, New Hampshire**

**Figure 2
Existing
Noise Levels**





Traffic Noise Analysis
State Project No. 16189B
Portsmouth, New Hampshire

Figure 1
 Build - Study Area 7
 Woodbury to Maplewood Ave (I-95 NB)

1 State 10-Year Transportation Improvement Plan. The legislature hereby adopts the Ten Year Transportation Improvement Plan 2023-2032 Pursuant to RSA 228:99 and RSA 240 of the Laws of New Hampshire and encourages expeditious implementation of the projects shown therein.

2 Turnpike System; Funds Provided. Amend RSA 237:7, I subparagraph (s) to read as follows:

(e) Construction and improvements to the central New Hampshire turnpike. RSA 237:2, IV. ~~126,600,000~~ **179,800,000**

(h) Improvements to central New Hampshire turnpike. RSA 237:2, IV(h), VII, VII(b), VII(c), IX, XI. ~~\$954,000,000~~ **977,500,000**

(r) Construction of the Newington-Dover Little Bay Bridge project. ~~275,000,000~~ **279,100,000**

(s) Construction of noise barriers along I-95 in Portsmouth. ~~3,200,000~~ **13,700,000**

(t) Construction of all electronic tolling or open road tolling plazas. RSA 237:2, VIII, RSA 237:5, II(o)-(p). ~~27,000,000~~ **37,300,000**

Effective Date. This act shall take effect upon its passage.